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10/668,699

09/22/2003

Andrew G. Butler

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01/07/2005

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EXAMINER

MILLER, TAKISHA S

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/668,699 | Applicant(s) BUTLER ET AL. | |
| | Examiner Takisha Miller | Art Unit 2855 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>12/19/2003</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Reference #5.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the electromagnetic solenoid, light emitting diode and light modulated junction device must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

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must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Meier (3,963,082). Meier teaches a force measuring method and apparatus comprising a flexible beam (13-15) having at one end thereof a means (24) for rigid engagement of the beam (13-15), and at an opposing end thereof a means (18/110) for applying a force normal to the beam (13-15)(Fig.1); mounted in spaced apart longitudinal alignment on each side of the beam (13-15), a tensioned wire (19,19'); a vibratory modulator (26,27,20,20') in electromagnetic communication with the wire (19,19'), the wire caused to vibrate thereby (Col.5, line 67 – Col.6, line 17); and a vibratory sensor (23) in sensory communication with the wire (19,19'); an electrical circuit (not

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shown)(Col. 6, lines 33-38) functionally enabled for: (i) receiving electrical signals from the vibratory sensor (23) corresponding to a vibratory frequency of each of the wires (19,19')(Col. 5, lines 26-30); (ii) controlling the vibratory modulators to maintain the wires (19,19') at resonant vibratory frequency; (iii) measuring a differential vibratory frequency between the wires (19,19'); and (iv) calculating the magnitude of a force applied to the beam (13-15)(Col. 1, lines 60-66) in such direction that one of the wires (19,19') is incrementally further tensioned and the other of the wires (19,19') is incrementally relaxed (Col.8, lines 6-25)(Figs. 1,12).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meier (3,963,082) in view of Suzuki et al. (5,563,348)(hereinafter Suzuki). Meier teaches a force measuring method and apparatus comprising a wire (19,19'), vibratory modulator (26,27,20,20') and a vibratory sensor (23). Meier lacks teaching the vibratory modulator is an electromagnetic solenoid, the vibratory sensor is a light emitting diode combined with a light modulated junction device and a driver stage. Suzuki teaches an electromagnetic solenoid (26,26a,74), a light emitting diode (24,31) combined with a light modulated junction device (13-15,30)(Col.4, lines 51-66) and a driver stage which provides feedback of the electrical signals from the vibratory

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sensor to the vibratory modulator for the purpose of maintaining the vibratory modulator at resonant frequency (Col.5, lines 1-55)(Fig.1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Meier to include the limitation above as taught by Suzuki in order to more effectively measure force/stress by improving resistance against noise and making measurements at a pinpoint accuracy (see Suzuki; Col. 1, lines 51-67 and Col. 2, lines 48-53).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- 3,683,684 discloses a measuring apparatus of the vibratory string/wire type.
- 3,897,681 discloses a measuring apparatus of the vibratory string/wire type.
- 3,712,395 discloses a weight sensing cell.
- 4,221,133 discloses a measuring apparatus of the vibratory string/wire type.
- 4,043,190 discloses a measuring apparatus of the vibratory string/wire type.
- 4,070,900 discloses a measuring apparatus of the vibratory string/wire type.
- 3,885,427 discloses a measuring apparatus of the vibratory string/wire type.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Takisha Miller whose telephone number is (571) 272-2184. The examiner can normally be reached on Monday - Friday (7:00 am - 3:30 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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